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EXAMINER	
TAYLOR, BARRY W	

ART UNIT	PAPER NUMBER
2617	

DATE MAILED: 12/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/014,760	RICHTER ET AL.	
	Examiner	Art Unit	
	Barry W. Taylor	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 November 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4 and 6-48* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4 and 6-48* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *11 December 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

1. Claims 1-4 and 6-48 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

a) Regarding claims 1-4, and 6-16. Applicants newly recited independent claim limitations "a filter network coupled to said input interface, wherein said filter network utilizes one or more low order filters" (see newly amended claim limitations in independent claim 1). The Examiner has performed a text search of Applicants specification and notes that "low order filters" cannot be found.

The Examiner notes that Applicants generally point to paragraphs 0031 – 0032 for support (see Applicants comment starting on page 9 and continuing to page 10, paper dated 11/14/06). The Examiner has reviewed paragraphs 0031 – 0032 but is unable to find support. It is unclear to the Examiner as to what Applicants invention is directed. Paragraphs 0031 –0032 show LC filters as either discrete components or integrated on circuit?

b) Regarding claims 17-28. Applicants newly recited independent claim limitations "a filter network utilizing one or more low order filters" (see newly amended claim limitations in independent claim 17). The Examiner has performed a text search of Applicants specification and notes that "low order filters" cannot be found.

The Examiner notes that Applicants generally point to paragraphs 0031 – 0032 for support (see Applicants comment starting on page 9 and continuing to page 10, paper dated 11/14/06). The Examiner has reviewed paragraphs 0031 – 0032 but is unable to find support. It is unclear to the Examiner as to what Applicants invention is directed. Paragraphs 0031 –0032 show LC filters as either discrete components or integrated on circuit?

d) Regarding claims 29-33. Applicants newly recited independent claim limitations "filtering said signal stream with a filter network utilizing one or more low order filters" (see newly amended claim limitations in independent claim 29). The Examiner has performed a text search of Applicants specification and notes that "low order filters" cannot be found.

The Examiner notes that Applicants generally point to paragraphs 0031 – 0032 for support (see Applicants comment starting on page 9 and continuing to page 10, paper dated 11/14/06). The Examiner has reviewed paragraphs 0031 – 0032 but is unable to find support. It is unclear to the Examiner as to what Applicants invention is directed. Paragraphs 0031 –0032 show LC filters as either discrete components or integrated on circuit?

e) Regarding claims 34-38. Applicants newly recited independent claim limitations "with one or more low order filters" (see newly amended claim limitations in independent claim 34). The Examiner has performed a text search of Applicants specification and notes that "low order filters" cannot be found.

The Examiner notes that Applicants generally point to paragraphs 0031 – 0032 for support (see Applicants comment starting on page 9 and continuing to page 10, paper dated 11/14/06). The Examiner has reviewed paragraphs 0031 – 0032 but is unable to find support. It is unclear to the Examiner as to what Applicants invention is directed. Paragraphs 0031 –0032 show LC filters as either discrete components or integrated on circuit?

f) Regarding claims 39-45. Applicants newly recited independent claim limitations "filtering said signal stream using one or more low order filters" (see newly amended claim limitations in independent claim 39). The Examiner has performed a text search of Applicants specification and notes that "low order filters" cannot be found.

The Examiner notes that Applicants generally point to paragraphs 0031 – 0032 for support (see Applicants comment starting on page 9 and continuing to page 10, paper dated 11/14/06). The Examiner has reviewed paragraphs 0031 – 0032 but is unable to find support. It is unclear to the Examiner as to what Applicants invention is directed. Paragraphs 0031 –0032 show LC filters as either discrete components or integrated on circuit?

g) Regarding claims 46-48. Applicants newly recited independent claim limitations "utilizing one or more low order filters (see newly amended claim limitations

in independent claim 46). The Examiner has performed a text search of Applicants specification and notes that "low order filters" cannot be found.

The Examiner notes that Applicants generally point to paragraphs 0031 – 0032 for support (see Applicants comment starting on page 9 and continuing to page 10, paper dated 11/14/06). The Examiner has reviewed paragraphs 0031 – 0032 but is unable to find support. It is unclear to the Examiner as to what Applicants invention is directed. Paragraphs 0031 –0032 show LC filters as either discrete components or integrated on circuit?

2. Claims 6-7, 19-22, 32, 35, 41 and 47 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

a) Regarding dependent claims 6-7, 19-22, 32, 35, 41 and 47. Applicant's dependent claims 6-7, 19-22, 32, 35, 41 and 47 generally recite "first order filter" but Applicants specification is silent with respect to "first order". The Examiner has performed a text search of Applicants specification and notes that "first order filter" cannot be found. It is unclear to the Examiner as to what Applicants invention is directed. Paragraphs 0031 –0032 show LC filters but never mention as to whether the LC circuit is "first order"?

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1, 6-11, 15-19, 21-22, 25-26, 29-32, 34-35, 39, 41-42 and 46-48 are rejected under 35 U.S.C. 103(a) as being obvious over Bertonis et al (6,625,222 hereinafter Bertonis) in view of Rogers et al (6,681,103 hereinafter Rogers). The following rejections are being made as best understood by the Examiner due to the 35 U.S.C. 112, first paragraph rejections listed above.

Regarding claim 1. Bertonis teaches a data channel tuner (title, abstract, figure 8) comprising:

an input interface for accepting said data channel, wherein said input interface further accepts signal energy at a frequency associated with an image of said data

channel as mixed by said tuner (see figure 8 wherein LNA generates signal plus noise before passing to an adaptive Image Reject Mixer 105); and

an image reject mixer coupled to said input interface and providing frequency conversion of said data channel (see Adaptive Image Reject Mixer 105 figure 8).

According to Applicant, Bertonis does not teach "a filter network coupled to said input interface, wherein said filter network utilizes one or more low order filters" (see newly amended claim limitations in independent claim 1). The Examiner has performed a text search of Applicants specification and notes that "low order filters" cannot be found.

The Examiner notes that Applicants generally point to paragraphs 0031 – 0032 for support (see Applicants comment starting on page 9 and continuing to page 10, paper dated 11/14/06). The Examiner has reviewed paragraphs 0031 – 0032 but is unable to find support. It is unclear to the Examiner as to what Applicants invention is directed. Paragraphs 0031 –0032 show LC filters as either discrete components or integrated on circuit? The Examiner further notes that Bertonis figure 8 (items 93 and 94) shows first order used to perform Low Pass Filtering.

Rogers also teaches an image reject filter (figure 1) having a filter network (see FILTER figure 1) coupled to said image reject mixer (see MIXER figure 1). Rogers improves on prior art (see figure 1) by using on-chip image rejection filter having LC components (col. 1 line 5 – col. 2 line 21) which can be made variable thereby enabling tuning of the resonant frequency (col. 5 lines 2-6). Rogers discloses that by using on-chip image filter to provide selective amplification of a signal at a desired frequency, to

enable tuning of the resonant frequency, and to eliminate noise owing to the frequency selectivity of the tuned circuit (see figures 1-4, col. 3 lines 33-67, col. 4 line 66 – col. 5 line 33).

It would have been obvious for any one of ordinary skill in the art at the time of the invention to utilize the on-chip filter as taught by Rogers into the teachings of Bertonis in order to provide an alternative way to filter out unwanted image frequencies by using on-chip LC circuit (i.e. first order) for selective tuning to desired frequency.

Regarding claims 6-7. Bertonis does not use the term "first order" in his specification. The Examiner also notes that "first order" is missing from Applicants specification.

Rogers also teaches an image reject filter (figure 1) having a filter network (see FILTER figure 1) coupled to said image reject mixer (see MIXER figure 1). Rogers improves on prior art (see figure 1) by using on-chip image rejection filter having LC components (col. 1 line 5 – col. 2 line 21). Rogers discloses that by using on-chip image filter to provide selective amplification of a signal at a desired frequency, to enable tuning of the resonant frequency, and to eliminate noise owing to the frequency selectivity of the tuned circuit (see figures 1-4, col. 3 lines 33-67, col. 4 line 66 – col. 5 line 33).

It would have been obvious for any one of ordinary skill in the art at the time of the invention to utilize the on-chip filter as taught by Rogers into the teachings of Bertonis in order to provide for selective amplification of a signal at a desired frequency

while eliminating noise owing to the frequency selectivity of the tuned circuit as disclosed by Rogers.

Regarding claim 8. Bertonis teaches at least one amplifier (see 81 figure 8) disposed in a signal path between a filter (99 figure 8) of said filter network and said image reject mixer (105 figure 8).

Regarding claims 9-10. Bertonis does show IC technology being employed.

Rogers also teaches a image reject filter (figure 1) having a filter network (see FILTER figure 1) coupled to said image reject mixer (see MIXER figure 1). Rogers improves on prior art (see figure 1) by using on-chip image rejection filter having LC components (col. 1 line 5 – col. 2 line 21). Rogers discloses that by using on-chip image filter to provide selective amplification of a signal at a desired frequency, to enable tuning of the resonant frequency, and to eliminate noise owing to the frequency selectivity of the tuned circuit (see figures 1-4, col. 3 lines 33-67, col. 4 line 66 – col. 5 line 33).

It would have been obvious for any one of ordinary skill in the art at the time of the invention to utilize the on-chip filter as taught by Rogers into the teachings of Bertonis in order to provide for selective amplification of a signal at a desired frequency while eliminating noise owing to the frequency selectivity of the tuned circuit as disclosed by Rogers.

Regarding claim 11. Bertonis teaches that Image and desired signals are closely (i.e. 10%) spaced (col. 2 lines 5-8).

Regarding claim 15. Bertonis teaches data channel comprises a forward data channel and image frequency signal energy comprises a forward access terminal signal (see col. 4 lines 25-67 wherein standard cable modem used).

Regarding claim 16. Bertonis teaches digital data stream (see DOCSIS standards for cable modem---col. 2 line 64).

Regarding claim 17. Bertonis teaches a system for providing tuning of a particular signal in a signal data stream including additional signal energy at an image frequency of said particular signal as frequency converted by said system (title, abstract, see figure 8 wherein LNA generates signal plus noise before passing to an adaptive Image Reject Mixer 105), comprising:

an image reject mixer providing frequency conversion of said particular signal and rejection of said additional signal energy, wherein a signal energy of said particular signal is substantially less than said additional energy (see Adaptive Image Reject Mixer 105 figure 8 used to convert a particular signal and reject image (i.e. additional signal energy) wherein the signal of interest and image are closely spaced---col. 2 lines 5-8).

According to Applicant, Bertonis does not teach "a filter network utilizing one or more low order filters" (see newly amended claim limitations in independent claim). The Examiner has performed a text search of Applicants specification and notes that "low order filters" cannot be found.

The Examiner notes that Applicants generally point to paragraphs 0031 – 0032 for support (see Applicants comment starting on page 9 and continuing to page 10, paper dated 11/14/06). The Examiner has reviewed paragraphs 0031 – 0032 but is

unable to find support. It is unclear to the Examiner as to what Applicants invention is directed. Paragraphs 0031 –0032 show LC filters as either discrete components or integrated on circuit? The Examiner further notes that Bertonis figure 8 (items 93 and 94) shows first order used to perform Low Pass Filtering.

Rogers also teaches an image reject filter (figure 1) having a filter network (see FILTER figure 1) coupled to said image reject mixer (see MIXER figure 1). Rogers improves on prior art (see figure 1) by using on-chip image rejection filter having LC components (col. 1 line 5 – col. 2 line 21) which can be made variable thereby enabling tuning of the resonant frequency (col. 5 lines 2-6). Rogers discloses that by using on-chip image filter to provide selective amplification of a signal at a desired frequency, to enable tuning of the resonant frequency, and to eliminate noise owing to the frequency selectivity of the tuned circuit (see figures 1-4, col. 3 lines 33-67, col. 4 line 66 – col. 5 line 33).

It would have been obvious for any one of ordinary skill in the art at the time of the invention to utilize the on-chip filter as taught by Rogers into the teachings of Bertonis in order to provide an alternative way to filter out unwanted image frequencies by using on-chip LC circuit (i.e. first order) for selective tuning to desired frequency.

Regarding claim 18. Bertonis teaches that Image and desired signals are closely (i.e. 10%) spaced (col. 2 lines 5-8).

Regarding claims 19 and 21. Bertonis does not use the term "first order" in his specification. The Examiner also notes that "first order" is missing from Applicants specification.

Rogers also teaches an image reject filter (figure 1) having a filter network (see FILTER figure 1) coupled to said image reject mixer (see MIXER figure 1). Rogers improves on prior art (see figure 1) by using on-chip image rejection filter having LC components (col. 1 line 5 – col. 2 line 21). Rogers discloses that by using on-chip image filter to provide selective amplification of a signal at a desired frequency, to enable tuning of the resonant frequency, and to eliminate noise owing to the frequency selectivity of the tuned circuit (see figures 1-4, col. 3 lines 33-67, col. 4 line 66 – col. 5 line 33).

It would have been obvious for any one of ordinary skill in the art at the time of the invention to utilize the on-chip filter as taught by Rogers into the teachings of Bertonis in order to provide for selective amplification of a signal at a desired frequency while eliminating noise owing to the frequency selectivity of the tuned circuit as disclosed by Rogers.

Regarding claims 22 and 25. Bertonis does show IC technology being employed.

Rogers also teaches a image reject filter (figure 1) having a filter network (see FILTER figure 1) coupled to said image reject mixer (see MIXER figure 1). Rogers improves on prior art (see figure 1) by using on-chip image rejection filter having LC components (col. 1 line 5 – col. 2 line 21). Rogers discloses that by using on-chip

image filter to provide selective amplification of a signal at a desired frequency, to enable tuning of the resonant frequency, and to eliminate noise owing to the frequency selectivity of the tuned circuit (see figures 1-4, col. 3 lines 33-67, col. 4 line 66 – col. 5 line 33).

It would have been obvious for any one of ordinary skill in the art at the time of the invention to utilize the on-chip filter as taught by Rogers into the teachings of Bertonis in order to provide for selective amplification of a signal at a desired frequency while eliminating noise owing to the frequency selectivity of the tuned circuit as disclosed by Rogers.

Regarding claim 26. Bertonis teaches data channel comprises a forward data channel and image frequency signal energy comprises a forward access terminal signal (see col. 4 lines 25-67 wherein standard cable modem used).

Regarding claim 29. Bertonis teaches a data channel tuner for tuning a particular signal from a signal stream (title, abstract, figure 8) comprising:

Providing the signal stream having a first signal and a second signal ... (see figure 8 wherein LNA generates signal plus noise before passing to an adaptive Image Reject Mixer 105); and

Mixing the signal stream using an image reject mixer ... (see Adaptive Image Reject Mixer 105 figure 8).

Bertonis does not elaborate on signal energy of first and second signals and According to Applicant, Bertonis does not teach "filtering said signal stream with a filter

network utilizing one or more order filters" (see newly amended claim limitations). The Examiner has performed a text search of Applicants specification and notes that "low order filters" cannot be found.

The Examiner notes that Applicants generally point to paragraphs 0031 – 0032 for support (see Applicants comment starting on page 9 and continuing to page 10, paper dated 11/14/06). The Examiner has reviewed paragraphs 0031 – 0032 but is unable to find support. It is unclear to the Examiner as to what Applicants invention is directed. Paragraphs 0031 –0032 show LC filters as either discrete components or integrated on circuit? The Examiner further notes that Bertonis figure 8 (items 93 and 94) shows first order used to perform Low Pass Filtering.

Rogers also teaches an image reject filter (figure 1) having a filter network (see FILTER figure 1) coupled to said image reject mixer (see MIXER figure 1). Rogers improves on prior art (see figure 1) by using on-chip image rejection filter having LC components (col. 1 line 5 – col. 2 line 21) which can be made variable thereby enabling tuning of the resonant frequency (col. 5 lines 2-6). Rogers discloses that by using on-chip image filter to provide selective amplification of a signal at a desired frequency, to enable tuning of the resonant frequency, and to eliminate noise owing to the frequency selectivity of the tuned circuit (see figures 1-4, col. 3 lines 33-67, col. 4 line 66 – col. 5 line 33).

It would have been obvious for any one of ordinary skill in the art at the time of the invention to utilize the on-chip filter as taught by Rogers into the teachings of

Bertonis in order to provide an alternative way to filter out unwanted image frequencies by using on-chip LC circuit (i.e. first order) for selective tuning to desired frequency.

Regarding claim 30. Bertonis teaches data channel comprises a forward data channel and image frequency signal energy comprises a forward access terminal signal (see col. 4 lines 25-67 wherein standard cable modem used).

Regarding claims 31-32. Bertonis does not use the term "first order" in his specification. The Examiner also notes that "first order" is missing from Applicants specification.

Rogers also teaches an image reject filter (figure 1) having a filter network (see FILTER figure 1) coupled to said image reject mixer (see MIXER figure 1). Rogers improves on prior art (see figure 1) by using on-chip image rejection filter having LC components (col. 1 line 5 – col. 2 line 21). Rogers discloses that by using on-chip image filter to provide selective amplification of a signal at a desired frequency, to enable tuning of the resonant frequency, and to eliminate noise owing to the frequency selectivity of the tuned circuit (see figures 1-4, col. 3 lines 33-67, col. 4 line 66 – col. 5 line 33).

It would have been obvious for any one of ordinary skill in the art at the time of the invention to utilize the on-chip filter as taught by Rogers into the teachings of Bertonis in order to provide for selective amplification of a signal at a desired frequency while eliminating noise owing to the frequency selectivity of the tuned circuit as disclosed by Rogers.

Method claim 34 is rejected for the same reasons as apparatus claim 1 and system claim 17 since the recited apparatus and system would perform the claimed method steps.

Regarding claim 35. Bertonis does not use the term "first order" in his specification. The Examiner also notes that "first order" is missing from Applicants specification.

Rogers also teaches an image reject filter (figure 1) having a filter network (see FILTER figure 1) coupled to said image reject mixer (see MIXER figure 1). Rogers improves on prior art (see figure 1) by using on-chip image rejection filter having LC components (col. 1 line 5 – col. 2 line 21). Rogers discloses that by using on-chip image filter to provide selective amplification of a signal at a desired frequency, to enable tuning of the resonant frequency, and to eliminate noise owing to the frequency selectivity of the tuned circuit (see figures 1-4, col. 3 lines 33-67, col. 4 line 66 – col. 5 line 33).

It would have been obvious for any one of ordinary skill in the art at the time of the invention to utilize the on-chip filter as taught by Rogers into the teachings of Bertonis in order to provide for selective amplification of a signal at a desired frequency while eliminating noise owing to the frequency selectivity of the tuned circuit as disclosed by Rogers.

Method claim 39 is rejected for the same reasons as apparatus claim 1 and system claim 17 since the recited apparatus and system would perform the claimed method steps.

Regarding claim 41. Bertonis does not use the term "first order" in his specification. The Examiner also notes that "first order" is missing from Applicants specification.

Rogers also teaches an image reject filter (figure 1) having a filter network (see FILTER figure 1) coupled to said image reject mixer (see MIXER figure 1). Rogers improves on prior art (see figure 1) by using on-chip image rejection filter having LC components (col. 1 line 5 – col. 2 line 21). Rogers discloses that by using on-chip image filter to provide selective amplification of a signal at a desired frequency, to enable tuning of the resonant frequency, and to eliminate noise owing to the frequency selectivity of the tuned circuit (see figures 1-4, col. 3 lines 33-67, col. 4 line 66 – col. 5 line 33).

It would have been obvious for any one of ordinary skill in the art at the time of the invention to utilize the on-chip filter as taught by Rogers into the teachings of Bertonis in order to provide for selective amplification of a signal at a desired frequency while eliminating noise owing to the frequency selectivity of the tuned circuit as disclosed by Rogers.

Regarding claim 42. Bertonis teaches that Image and desired signals are closely (i.e. 10%) spaced (col. 2 lines 5-8).

Method claim 46 is rejected for the same reasons as apparatus claim 1 and system claim 17 since the recited apparatus and system would perform the claimed method steps.

Regarding claim 47. Bertonis does not use the term "first order" in his specification. The Examiner also notes that "first order" is missing from Applicants specification.

Rogers also teaches an image reject filter (figure 1) having a filter network (see FILTER figure 1) coupled to said image reject mixer (see MIXER figure 1). Rogers improves on prior art (see figure 1) by using on-chip image rejection filter having LC components (col. 1 line 5 – col. 2 line 21). Rogers discloses that by using on-chip image filter to provide selective amplification of a signal at a desired frequency, to enable tuning of the resonant frequency, and to eliminate noise owing to the frequency selectivity of the tuned circuit (see figures 1-4, col. 3 lines 33-67, col. 4 line 66 – col. 5 line 33).

It would have been obvious for any one of ordinary skill in the art at the time of the invention to utilize the on-chip filter as taught by Rogers into the teachings of Bertonis in order to provide for selective amplification of a signal at a desired frequency while eliminating noise owing to the frequency selectivity of the tuned circuit as disclosed by Rogers.

Regarding claim 48. Bertonis teaches that Image and desired signals are closely (i.e. 10%) spaced (col. 2 lines 5-8).

4. Claims 2-4, 12-14, 20, 23-24, 27-28, 33, 36-38, 40, 43-45 are rejected under 35 U.S.C. 103(a) as being obvious over Bertonis et al (6,625,222 hereinafter Bertonis) in view of Rogers et al (6,681,103 hereinafter Rogers) further in view of Applicants own admittance or Cheah (6,674,409). The following rejections are being made as best understood by the Examiner due to the 35 U.S.C. 112, first paragraph rejections listed above.

Regarding claims 2-4, 23-24, 33, 36-38, 40 and 44-45. Bertonis in view of Rogers does not show using 20 dB.

However, Applicants openly admit that FCC standards have been set for signal to noise and distortion radio when operating in the MHz channel spacing (see 20 dB in paragraph 0006 of Applicants current invention or column 3 lines 31-40 in Cheah).

It would have been obvious for any one of ordinary skill in the art at the time of invention to utilize standards that have already been established as evident by Applicants own admittance.

Regarding claims 12-14, 27-28 and 43. Bertonis in view of Rogers does not list approximate frequencies.

However, Applicants openly admit that FCC standards have been set for signal to noise and distortion radio when operating in the MHz channel spacing (see 20 dB in paragraph 0006 of Applicants current invention or column 3 lines 31-40 in Cheah). Applicants openly admit that tuners (see figure 1 and paragraph 0022 of Applicants disclosure) already operate in frequency ranges of approximate 70 MHz to 130 MHz

and other frequencies close to tuner (see 142 MHz in paragraph 0022 of Applicants specification).

It would have been obvious for any one of ordinary skill in the art at the time of invention to utilize standards that have already been established as evident by Applicants own admittance.

Regarding claim 20. Bertonis in view of Rogers fail to show using 20 dB.

However, Applicants openly admit that FCC standards have been set for signal to noise and distortion radio when operating in the MHz channel spacing (see 20 dB in paragraph 0006 of Applicants current invention or column 3 lines 31-40 in Cheah).

It would have been obvious for any one of ordinary skill in the art at the time of invention to utilize standards that have already been established as evident by Applicants own admittance.

Response to Arguments

5. Applicant's arguments with respect to claims 1-4 and 6-48 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Barry W. Taylor, telephone number (571) 272-7509, who is available Monday-Thursday, 6:30am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Trost, can be reached at (571) 272-7872. The central facsimile phone number for this group is **571-273-8300**.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group 2600 receptionist whose telephone number is (571) 272-2600, the 2600 Customer Service telephone number is (571) 272-2600.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Centralized Delivery Policy: For patent related correspondence, hand carry deliveries must be made to the Customer Service Window (now located at the Randolph Building, 401 Dulany Street, Alexandria, VA 22314), and facsimile transmissions must be sent to the central fax number **(571-273-8300).**

Barry W. Taylor
Art Unit 2617

BARRY TAYLOR
PRIMARY EXAMINER